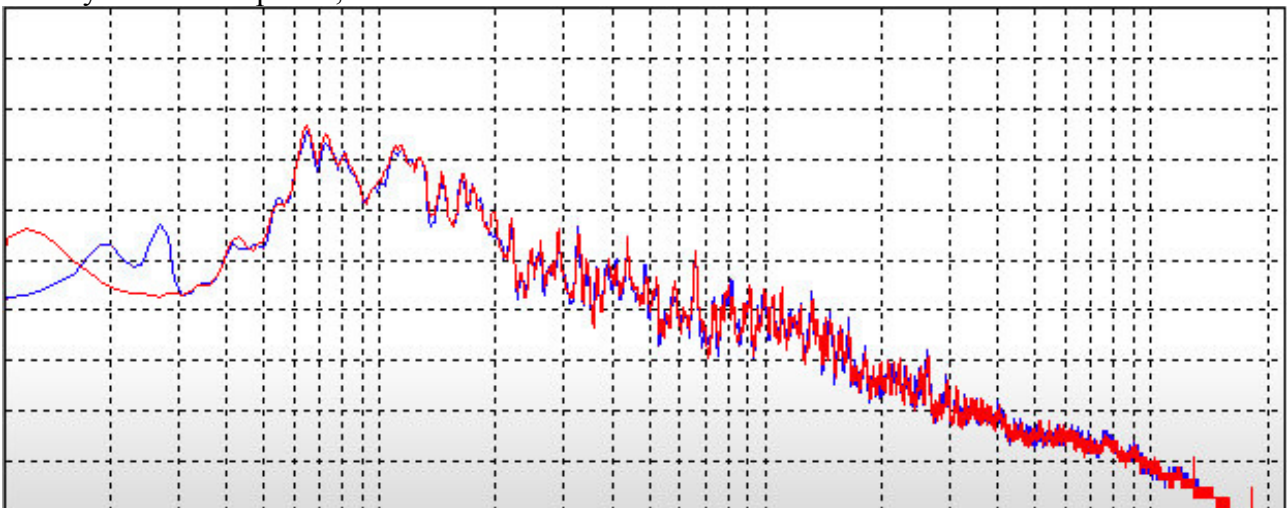


On TB there are abundant reports on the differences in sound brought by a lighter end-pin. The lighter end-pin can take various shapes: a shortened (cut-off) normal end pin; wood (either with a steel stub of unknown length inside, or all wood), hollow steel, or carbon fibre (sometimes also hollow). This instrument came with an OD = 12mm, L = 430mm solid end-pin, W = 375g. Because of the weight & long length, the pin is rattle-prone. Note that I play it seated at the 3rd position, and standing at the 4th (=165mm sticking out below the chuck), out of 8 positions.

Because of the rattling tendency & high weight, I replaced it by something else. The new end-pin is a 8 x 10mm hollow steel bar, with the OD increased to 12mm using epoxied copper pipe over the top 84mm (and black plastic tubing for the rest), L = 223mm, W = 95g. The rubber at the bottom is machined from a M8 silence block (thread tapped into the steel bar & secured with epoxy).



The subjective perception of going to the new end-pin is not very clear, but it seems slightly fuller & louder. To quantify that, 2 back-to-back recordings were made, with identical settings and identical instrument & microphone positioning; in both cases the pin was set at 165mm. See the overlay of the two spectra; the scale is 11Hz – 22kHz & -120dB – 0dB.



Overlay 20160822_a, 375g endpin (blue) & _b, 95g endpin (red).jpg

With the low E at 41.2Hz, the differences below 30Hz are noise (FT & measurement noise, room vibes). The low E does indeed appear to be a little louder, as does the entire range below 200Hz. But the difference is small, at best 1dB on average, and could be caused by playing differences. Nevertheless, it is in line with the subjective perception. The good overlay in the higher sections confirms microphone distance was identical.

In *this* instrument, a minor increase in the low end is indicated as the result of the lighter end-pin.